1-2002

GEOL 226.01: Mineralogy and Petrology

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Geology 226 - Mineralogy and Petrology - Spring, 2002

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Week	Lecture Topic and (Text Reading) * and ** refer to the two texts - see references below	Lab Topic and Lab Manual Chapter
1	The composition of the Earth's crust: consequences for rocks and minerals. *(1-5, 38-41). Mineral names and classes. *(15, 334, skim 335-560	Introduction to mineral identification methods: physical properties of minerals *(17-37). Begin Set # 1:Native elements, sulfides, and sulphosalts *(333-370)
2	Crystal Chemistry and Crystallography, *(38-103, 105-168, 170-239)	Continue Set # 1:Native elements, sulfides, and sulphosalts *(333-370)
3	Crystal Chemistry & Crystallography, con't. Rock-forming minerals: introduction to the silicates, olivine and other independent tetrahedra minerals *(441-505)	Quiz on Set # 1 Begin Set # 2: Silicates - Independant tetrahedra, double tetrahedra, ring structures, single chains *(491-523)
4	Pyroxenes and amphiboles *(452-461, 514-526)	Set # 2, con’t

5	Micas and clay minerals *(462-474, 527-542)	Quiz on Set # 2. Begin Set # 3: Silicates - double chains, sheets, framework structures * (523-562)
6	Quartz and feldspar *(475-483, 543-554)	Set # 3 con't
7	Feldspar, feldspathoids, and zeolites *(554-562)	Quiz on Set # 3. Begin Set # 4: Oxides and hydroxides, halides, carbonates, sulfates, phosphates *(371-440)
8	Feldspar, feldspathoids, and zeolites, con't MIDTERM EXAM	Quiz on Mineral Set # 4. Begin common igneous plutonic and volcanic rocks Sets # 5 and # 6
9	Igneous rocks and environments **(Chapters 1-11)	Common plutonic and volcanic rocks Sets # 5 and # 6 con't
10	Igneous rocks, con't.	Common plutonic and volcanic rocks Sets # 5 and # 6 con't
11	Igneous rocks, con't.	QUIZ ON Igneous rocks Sets # 5 and # 6; begin identification of common sedimentary rocks Set # 7
12	Weathering, sediment, and	Common sedimentary

	sedimentary rocks **(Chapters 12-20)	rocks Set # 7 con't
13	Weathering, sediment, and sedimentary rocks con't	Quiz on sedimentary rocks Set # 7; Begin identification of common metamorphic rocks Set # 8
14	Metamorphism and metamorphic rocks. **(Chapters 21-24, Chapter 28)	Identification of common metamorphic rocks con't
15	Metamorphism and metamorphic rocks, con't	Final lab exam on all minerals and rocks

February 15 – Last Day to Add/Drop by Cyberbear

March 11 – Last Day to Drop/Add (No $$$ Back) and Change Grade Option

Texts: *Manual of Mineral Science, 22nd Ed., Klein; **Petrology, The Study of Igneous, Sedimentary, and Metamorphic Rocks 2nd Edition, Raymond.

Additional readings: A valuable additional resource is Hyndman, Petrology of Igneous and Metamorphic Rocks, 2nd Ed., 1985. In addition pages 38 -39 of Raymond summarize the rock-forming minerals.

Lab Manual: Manual of Mineral Science, 22nd Ed., Klein. Please bring it to each lab meeting. You will need it for mineral identification work.

Grading: Approximately 2/3 from lecture exams and 1/3 from lab.

Office Hours: 11:30 AM and 3 PM Monday and Wednesday, or by appointment, or whenever I'm in my office or labs.

Final Exam: Tuesday May 14, 10:10 – 12:10